

A Vision Based Automated Guided Vehicle System With Marker

Right here, we have countless ebook A Vision Based Automated Guided Vehicle System With Marker and collections to check out. We additionally have enough money variant types and next type of the books to browse. The up to standard book, fiction, history, novel, scientific research, as with ease as various extra sorts of books are readily welcoming here.

As this A Vision Based Automated Guided Vehicle System With Marker, it ends in the works swine one of the favored ebook A Vision Based Automated Guided Vehicle System With Marker collections that we have. This is why you remain in the best website to look the incredible books to have.

Intelligent Systems and Networks Duc-Tan Tran 2021-05-12 This book presents Proceedings of the International Conference on Intelligent Systems and Networks (ICISN 2021), held at Hanoi in Vietnam. It includes peer-reviewed high-quality articles on intelligent system and networks. It brings together professionals and researchers in the area and presents a platform for exchange of ideas and to foster future collaboration. The topics covered in this book include—foundations of computer science; computational intelligence language and speech processing; software engineering software development methods; wireless communications signal processing for communications; electronics track IoT and sensor systems embedded systems; etc.

Integration of Process Planning and Scheduling Rakesh Kumar Phanden 2019-10-16 Both process planning and scheduling are very important functions of manufacturing, which affect together the cost to manufacture a product and the time to deliver it. This book contains various approaches proposed by researchers to integrate the process planning and scheduling functions of manufacturing under varying configurations of shops. It is useful for both beginners and advanced researchers to understand and formulate the Integration Process Planning and Scheduling (IPPS) problem effectively. Features Covers the basics of both process planning and scheduling Presents nonlinear approaches, closed-loop approaches, as well as distributed approaches Discuss the outfit of IPPS in Industry 4.0 paradigm Includes the benchmarking problems on IPPS Contains nature-algorithms and metaheuristics for performance measurements in IPPS Presents analysis of energy-efficient objective for sustainable manufacturing in IPPS

Active Sensor Planning for Multiview Vision Tasks Shengyong Chen 2008-01-23 This unique book explores the important issues in studying for active visual perception. The book's eleven chapters draw on recent important work in robot vision over ten years, particularly in the use of new concepts. Implementation examples are provided with theoretical methods for testing in a real robot system. With these optimal sensor planning strategies, this book will give the robot vision system the adaptability needed in many practical applications.

Computational and Experimental Methods in Mechanical Engineering Veerredhi Vasudeva Rao 2021-08-30 This book includes selected peer-

reviewed papers presented at third International Conference on Computational and Experimental Methods in Mechanical Engineering held in June 2021 at G.L. Bajaj Institute of Technology and Management, Greater Noida, U.P, India. The book covers broad range of topics in latest research including hydropower, heat transfer, fluid mechanics, advanced manufacturing, recycling and waste disposal, solar energy, thermal power plants, refrigeration and air conditioning, robotics, automation and mechatronics, and advanced designs. The authors are experienced and experts in their field, and all papers are reviewed by expert reviewers in respective field. The book is useful for industry peoples, faculties, and research scholars.

Intelligent Industrial Systems: Modeling, Automation and Adaptive Behavior Rigatos, Gerasimos 2010-06-30 In recent years, there has been growing interest in industrial systems, especially in robotic manipulators and mobile robot systems. As the cost of robots goes down and become more compact, the number of industrial applications of robotic systems increases. Moreover, there is need to design industrial systems with intelligence, autonomous decision making capabilities, and self-diagnosing properties. Intelligent Industrial Systems: Modeling, Automation and Adaptive Behavior analyzes current trends in industrial systems design, such as intelligent, industrial, and mobile robotics, complex electromechanical systems, fault diagnosis and avoidance of critical conditions, optimization, and adaptive behavior. This book discusses examples from major areas of research for engineers and researchers, providing an extensive background on robotics and industrial systems with intelligence, autonomy, and adaptive behavior giving emphasis to industrial systems design.

Robot Systems for Rail Transit Applications Hui Liu 2020-06-27 Robot Systems for Rail Transit Applications presents the latest advances in robotics and artificial intelligence for railway systems, giving foundational principles and running through special problems in robot systems for rail transit. State-of-the art research in robotics and railway systems is presented alongside a series of real-world examples. Eight chapters give definitions and characteristics of rail transit robot systems, describe assembly and collaborative robots in manufacturing, introduce automated guided vehicles and autonomous rail rapid transit, demonstrate inspection robots, cover trench robots, and explain unmanned aerial vehicles. This book offers an integrated and highly-practical way to approach robotics and artificial intelligence in rail-transit. Introduces robot and artificial intelligence (AI) systems for rail transit applications Presents research alongside step-by-step coverage of real-world cases Gives the theoretical foundations underlying practical application Offers solutions for high-speed railways from the latest work in robotics Shows how robotics and AI systems afford new and efficient methods in rail transit

Development of Vision Autonomous Guided Vehicle Behaviour Using Neural Network Husnul 'Asyiyah Mohamad @ Awang 2012 This project is motivated by an interest in promoting the use of artificial neural network in manufacturing. Automated guided vehicle (AGV) is used in advanced manufacturing system that can help to reduce cost and increase efficiency. The application of neural network in the AGV is to help in increasing the AGVs performance and efficiency. The objectives of this project are to develop a line recognition algorithm for automated guided vehicle and to understand two types of neural networks that can be use in manufacturing. The types of guidelines used in this project are straight guideline, turn right guideline, turn left guideline and stop guideline. The line recognition algorithm involved the pre-processing images of the guideline captured by a camera and extracts the feature of the images by using first order statistics to calculate the values of mean, variance, skewness and kurtosis and train the image recognition by using neural networks. Neural network process involved setup the two types of neural network, trained and tested the network and compared the result. There are two types of neural network that used in this project namely, Feedforward Backpropagation and Radial Basis. In Feedforward Backpropagation Network the parameter involves are transfer function and number of neurons. Mean Squared Error (MSE) is used as performance function. Radial Basis Network with spread constant one give

significantly better performance compared to Feedforward Backpropagation Network. It produced much lower error compared to Feedforward Backpropagation Network. This project used MATLAB software which able to perform image processing tasks, train and simulate neural networks.

Intelligent Computing, Communication and Devices Lakhmi C. Jain 2014-08-28 In the history of mankind, three revolutions which impact the human life are the tool-making revolution, agricultural revolution and industrial revolution. They have transformed not only the economy and civilization but the overall development of the society. Probably, intelligence revolution is the next revolution, which the society will perceive in the next 10 years. ICCD-2014 covers all dimensions of intelligent sciences, i.e. Intelligent Computing, Intelligent Communication and Intelligent Devices. This volume covers contributions from Intelligent Communication which are from the areas such as Communications and Wireless Ad Hoc & Sensor Networks, Speech & Natural Language Processing, including Signal, Image and Video Processing and Mobile broadband and Optical networks, which are the key to the ground-breaking inventions to intelligent communication technologies. Secondly, Intelligent Device is any type of equipment, instrument or machine that has its own computing capability. Contributions from the areas such as Embedded Systems, RFID, RF MEMS, VLSI Design & Electronic Devices, Analog and Mixed-Signal IC Design and Testing, MEMS and Microsystems, CMOS MEMS, Solar Cells and Photonics, Nano Devices, Single Electron & Spintronics Devices, Space Electronics and Intelligent Robotics are covered in this volume.

Automated Guided Vehicle Systems Günter Ullrich 2014-12-24 This primer is directed at experts and practitioners in intralogistics who are concerned with optimizing material flows. The presentation is comprehensive covering both, practical and theoretical aspects with a moderate degree of specialization, using clear and concise language. Areas of operation as well as technical standards of all relevant components and functions are described. Recent developments in technology and in the markets are taken into account. The goal of this book is to further stronger use of automated guided transport systems and the enhancement of their future performance.

Automated Guided Vehicle Utilizing Thermal Signatures for Human Identification and Tracking H. R. Rabie 2016 Industry requires the development of sophisticated autonomous guided vehicles (AGV) with sensory and software capabilities to allow a vision-based awareness of surrounding objects. To achieve this, a closely integrated control system for the AGV together with machine vision capabilities needs to be developed to efficiently and reliably detect objects of interest. Industry application of AGVs require detection of humans and to support that requirement thermal imaging cameras offer a broad set of advantages. The aim of the study is to develop an AGV that uses a thermal imaging camera to detect a human in its environment. To achieve this, a literature study was done to determine the best type of components that should be used, reveal design issues and what characteristics the system must adhere to. LabVIEW was used to simulate AGV movement and operation together with the control system, develop machine vision capable of background noise filtering and verify the machine vision identification and tracking processes. Based on simulated results, the physical system was built and small modifications made to accommodate real world variables. The results indicate that a vision-based approach to detect, track and identify a person on a mobile robot in real time is achievable. It was found that LabVIEW is an excellent tool and platform for building the integrated system and expedites design and implementation. A key implication of this study is to show the versatility of thermal imaging as a method to extract a person from its background independently from current light conditions and in situations where full-colour cameras will fail.

Smart Cities—Opportunities and Challenges Sirajuddin Ahmed 2020-04-20 This book comprises select proceedings of the International Conference on Smart Cities: Opportunities and Challenges (ICSC 2019). The book contains chapters based on urban planning and design,

policies and financial management, environment, energy, transportation, smart materials, sustainable development, information technologies, data management and urban sociology reflecting the major themes of the conference. The contents focus on current research towards improved governance and efficient management of infrastructure such as water, energy, transportation and housing for sustainable development, economic growth, and improved quality of life, especially for developing nations. This book will be useful for academicians, researchers, and policy makers interested in designing, developing, planning, managing, and maintaining smart cities.

Motion Control for Intelligent Automation A. De Carli 2014-06-28 Motion Control is a rapidly evolving topic, with a wide range of applications, especially in robotics. Speed and position control of a mechanical system has always been one of the main problems in automatic control, as the demand increases for advanced levels of accuracy and dynamics. The study of motion control aims to combine theoretical approaches with the realization of mechanical systems characterized by high levels of performance. The IFAC workshop focused on the evolution of: mechanical systems modelling; control strategies; intelligent instrumentation; dedicated microprocessor devices, and new fields of application.

Embedded Vision System and Its Applications on Robots De Xu 2010 Annotation Embedded vision systems such as smart cameras have been rapidly developed recently. Vision systems have become smaller and lighter, but their performance has improved. The algorithms in embedded vision systems have their specifications limited by frequency of CPU, memory size, and architecture. The goal of this e-book is to provide an advanced reference work for engineers, researchers and scholars in the field of robotics, machine vision, and automation and to facilitate the exchange of their ideas, experiences and views on embedded vision system models. The effectiveness for all methods is emphasized in a practical sense for systems presented in this e-book.

Deep Learning for Unmanned Systems Anis Koubaa 2021-10-01 This book is used at the graduate or advanced undergraduate level and many others. Manned and unmanned ground, aerial and marine vehicles enable many promising and revolutionary civilian and military applications that will change our life in the near future. These applications include, but are not limited to, surveillance, search and rescue, environment monitoring, infrastructure monitoring, self-driving cars, contactless last-mile delivery vehicles, autonomous ships, precision agriculture and transmission line inspection to name just a few. These vehicles will benefit from advances of deep learning as a subfield of machine learning able to endow these vehicles with different capability such as perception, situation awareness, planning and intelligent control. Deep learning models also have the ability to generate actionable insights into the complex structures of large data sets. In recent years, deep learning research has received an increasing amount of attention from researchers in academia, government laboratories and industry. These research activities have borne some fruit in tackling some of the challenging problems of manned and unmanned ground, aerial and marine vehicles that are still open. Moreover, deep learning methods have been recently actively developed in other areas of machine learning, including reinforcement training and transfer/meta-learning, whereas standard, deep learning methods such as recurrent neural network (RNN) and coevolutionary neural networks (CNN). The book is primarily meant for researchers from academia and industry, who are working on in the research areas such as engineering, control engineering, robotics, mechatronics, biomedical engineering, mechanical engineering and computer science. The book chapters deal with the recent research problems in the areas of reinforcement learning-based control of UAVs and deep learning for unmanned aerial systems (UAS) The book chapters present various techniques of deep learning for robotic applications. The book chapters contain a good literature survey with a long list of references. The book chapters are well written with a good exposition of the research problem, methodology, block diagrams and mathematical techniques. The book chapters are lucidly illustrated with numerical

examples and simulations. The book chapters discuss details of applications and future research areas.

Computational Intelligence: Theories, Applications and Future Directions - Volume I Nishchal K. Verma 2018-07-31 This book presents selected proceedings of ICCI-2017, discussing theories, applications and future directions in the field of computational intelligence (CI). ICCI-2017 brought together international researchers presenting innovative work on self-adaptive systems and methods. This volume covers the current state of the field and explores new, open research directions. The book serves as a guide for readers working to develop and validate real-time problems and related applications using computational intelligence. It focuses on systems that deal with raw data intelligently, generate qualitative information that improves decision-making, and behave as smart systems, making it a valuable resource for researchers and professionals alike.

Genetic and Evolutionary Computing Shu-Chuan Chu 2022-01-04 This book contains selected papers presented at ICGEC 2021, the 14th International Conference on Genetic and Evolutionary Computing, held from October 21-23, 2021 in Jilin City, China. The conference was technically co-sponsored by Springer, Northeast Electric Power University Fujian University of Technology, Shandong University of Science and Technology, and Western Norway University of Applied Sciences. It is intended as an international forum for the researchers and professionals in all areas of genetic and evolutionary computing. And the readers may learn the up-to-date techniques of the mentioned topics, including swarm intelligence, artificial intelligence, information hiding and data mining techniques, which can help them to bring new ideas or apply the designed approaches from the collected papers to their professional jobs.

Transforming Management Using Artificial Intelligence Techniques Vikas Garg 2020-11-06 Transforming Management Using Artificial Intelligence Techniques redefines management practices using artificial intelligence (AI) by providing a new approach. It offers a detailed, well-illustrated treatment of each topic with examples and case studies, and brings the exciting field to life by presenting a substantial and robust introduction to AI in a clear and concise manner. It provides a deeper understanding of how the relevant aspects of AI impact each other's efficacy for better output. It's a reliable and accessible one-step resource that introduces AI; presents a full examination of applications; provides an understanding of the foundations; examines education powered by AI, entertainment, home and service robots, healthcare re-imagined, predictive policing, space exploration; and so much more, all within the realm of AI. This book will feature: Uncovering new and innovative features of AI and how it can help in raising economic efficiency at both micro- and macro levels Both the literature and practical aspects of AI and its uses This book summarizing key concepts at the end of each chapter to assist reader comprehension Case studies of tried and tested approaches to resolutions of typical problems Ideal for both teaching and general-knowledge purposes. This book will also simply provide the topic of AI for the readers, aspiring researchers and practitioners involved in management and computer science, so they can obtain a high-level of understanding of AI and managerial applications.

Unleashing the Power of 5GtoB in Industries Pengfei Sun

Advances in Robot Design and Intelligent Control Aleksandar Rđi? 2016-11-26 This book presents the proceedings of the 25th International Conference on Robotics in Alpe-Adria-Danube Region, RAAD 2016 held in Belgrade, Serbia, on June 30th–July 2nd, 2016. In keeping with the tradition of the event, RAAD 2016 covered all the important areas of research and innovation in new robot designs and intelligent robot control, with papers including Intelligent robot motion control; Robot vision and sensory processing; Novel design of robot manipulators and grippers; Robot applications in manufacturing and services; Autonomous systems, humanoid and walking robots; Human–robot interaction and collaboration; Cognitive robots and emotional intelligence; Medical, human-assistive robots and prosthetic design; Robots in construction and

arts, and Evolution, education, legal and social issues of robotics. For the first time in RAAD history, the themes cloud robots, legal and ethical issues in robotics as well as robots in arts were included in the technical program. The book is a valuable resource for researchers in fields of robotics, engineers who implement robotic solutions in manufacturing, services and healthcare, and master's and Ph.D. students working on robotics projects.

Technology in Supply Chain Management and Logistics Anthony M. Pagano 2019-09-07 Technology in Supply Chain Management and Logistics: Current Practice and Future Applications analyzes the implications of these technologies in a variety of supply chain settings, including block chain, Internet of Things (IoT), inventory optimization, and medical supply chain. This book outlines how technologies are being utilized for product planning, materials management and inventory, transportation and distribution, workflow, maintenance, the environment, and in health and safety. Readers will gain a better understanding of the implications of these technologies with respect to value creation, operational effectiveness, investment level, technical migration and general industry acceptance. In addition, the book features case studies, providing a real-world look at supply chain technology implementations, their necessary training requirements, and how these new technologies integrate with existing business technologies. Identifies emerging supply chain technologies and trends in technology acceptance and utilization levels across various industry sectors Assists professionals with technology investment decisions, procurement, best values, and how they can be utilized for logistics operations Features videos showing technology application, including optimization software, cloud computing, mobility, 3D printing, autonomous vehicles, drones and machine learning

Applied Computational Technologies Brijesh Iyer 2022-06-15 This book is a collection of best selected research papers presented at 7th International Conference on Computing in Engineering and Technology (ICCET 2022), organized by Dr. Babasaheb Ambedkar Technological University, Lonere, India, during February 12 – 13, 2022. Focusing on frontier topics and next-generation technologies, it presents original and innovative research from academics, scientists, students, and engineers alike. The theme of the conference is Applied Information Processing System.

Masters Theses in the Pure and Applied Sciences Wade H. Shafer 2012-12-06 Masters Theses in the Pure and Applied Sciences was first conceived, published, and disseminated by the Center for Information and Numerical Oata Analysis and Synthesis (CINOAS) * at Purdue University in 1957, starting its coverage of theses with the academic year 1955. Beginning with Volume 13, the printing and dissemination phases of the activity were transferred to University Microfilms/Xerox of Ann Arbor, Michigan, with the thought that such an arrangement would be more beneficial to the academic and general scientific and technical community. After five years of this joint undertaking we had concluded that it was in the interest of all concerned if the printing and distribution of the volumes were handled by an international publishing house to assure improved service and broader dissemination. Hence, starting with Volume 18, Masters Theses in the Pure and Applied Sciences has been disseminated on a worldwide basis by Plenum Publishing Corporation of New York, and in the same year the coverage was broadened to include Canadian universities. All back issues can also be ordered from Plenum. We have reported in Volume 33 (thesis year 1988) a total of 13,273 theses titles from 23 Canadian and 185 United States universities. We are sure that this broader base for these titles reported will greatly enhance the value of this important annual reference work. While Volume 33 reports theses submitted in 1988, on occasion, certain universities do report theses submitted in previous years but not reported at the time.

Advances in Manufacturing Technology XXXIII Y. Jin 2019-08-22 The development and management of technologies and operations are key to the success of all types of manufacturing business. This book presents the proceedings of the 17th International Conference on Manufacturing

Research (ICMR 2019), held in Belfast, UK, on 10 – 12 September 2019. ICMR has been the UK's main manufacturing research conference for 34 years and an international conference since 2003. It brings together researchers, academics and industrialists to share their vision, knowledge and experience and discuss emerging trends and new challenges in manufacturing research. The conference theme of ICMR2019 was smart manufacturing, and the book includes the 82 papers presented at the conference (representing an acceptance rate of 69%). These have been divided into 13 parts, which cover topics ranging from robot automation and machining processes, additive manufacturing, composite manufacturing, design methods, to information management, quality control, production optimization and product lifecycle management. Providing an overview of current trends and developments, the book will be of interest to researchers and engineers in the relevant area of manufacturing processes, design and production management.

Industrial Internet of Things Anand Sharma 2022-04-05 This book focuses on the key technologies, challenges, and research directions of the Industrial Internet of Things (IIoT). It provides a basis for discussing open principles, methods, and research problems, and provides a systematic overview of the state-of-the-art research efforts, directions, and potential challenges associated with IIoT. Industrial Internet of Things: Technologies and Research Directions covers how industry automation is projected to be the largest and fastest-growing segment of the market. It explores the collaborative development of high-performance telecommunications, military, industrial, and general-purpose embedded computing applications, and offers a systematic overview of the state-of-the-art research efforts and new potential directions. Researchers, academicians, and professionals working in this inter-disciplinary area will be interested in this book.

Road and Off-Road Vehicle System Dynamics Handbook Gianpiero Mastinu 2014-01-06 Featuring contributions from leading experts, the Road and Off-Road Vehicle System Dynamics Handbook provides comprehensive, authoritative coverage of all the major issues involved in road vehicle dynamic behavior. While the focus is on automobiles, this book also highlights motorcycles, heavy commercial vehicles, and off-road vehicles. The authors

Intelligent Robotics and Applications Chun-Yi Su 2012-09-28 The three volume set LNAI 7506, LNAI 7507 and LNAI 7508 constitutes the refereed proceedings of the 5th International Conference on Intelligent Robotics and Applications, ICIRA 2012, held in Montreal, Canada, in October 2012. The 197 revised full papers presented were thoroughly reviewed and selected from 271 submissions. They present the state-of-the-art developments in robotics, automation and mechatronics. This volume covers the topics of adaptive control systems; automotive systems; estimation and identification; intelligent visual systems; application of differential geometry in robotic mechanisms; unmanned systems technologies and applications; new development on health management, fault diagnosis, and fault-tolerant control; biomechatronics; intelligent control of mechanical and mechatronic systems.

Graph-Based Representations in Pattern Recognition Francisco Escolano 2007-05-31 This book constitutes the refereed proceedings of the 6th IAPR-TC-15 International Workshop on Graph-Based Representations in Pattern Recognition, GbRPR 2007, held in Alicante, Spain in June 2007. The 23 revised full papers and 14 revised poster papers presented were carefully reviewed and selected from 54 submissions. The papers are organized in topical sections on matching, distances and measures, graph-based segmentation and image processing, graph-based clustering, graph representations, pyramids, combinatorial maps and homologies, as well as graph clustering, embedding and learning.

Visual Position Recovery for an Automated Guided Vehicle Using Pseudo-random Encoding Khalfallah Habib 1991

Encyclopedia of Microcomputers Allen Kent 1990-10-26 "The Encyclopedia of Microcomputers serves as the ideal companion reference to the popular Encyclopedia of Computer Science and Technology. Now in its 10th year of publication, this timely reference work details the broad

spectrum of microcomputer technology, including microcomputer history; explains and illustrates the use of microcomputers throughout academe, business, government, and society in general; and assesses the future impact of this rapidly changing technology."

Sensor Systems Simulations Willem Dirk van Driel 2019-06-18 This book describes for readers various technical outcomes from the EU-project IoSense. The authors discuss sensor integration, including LEDs, dust sensors, LIDAR for automotive driving and 8 more, demonstrating their use in simulations for the design and fabrication of sensor systems. Readers will benefit from the coverage of topics such as sensor technologies for both discrete and integrated innovative sensor devices, suitable for high volume production, electrical, mechanical, security and software resources for integration of sensor system components into IoT systems and IoT-enabling systems, and IoT sensor system reliability. Describes from component to system level simulation, how to use the available simulation techniques for reaching a proper design with good performance; Explains how to use simulation techniques such as Finite Elements, Multi-body, Dynamic, stochastics and many more in the virtual design of sensor systems; Demonstrates the integration of several sensor solutions (thermal, dust, occupancy, distance, awareness and more) into large-scale system solutions in several industrial domains (Lighting, automotive, transport and more); Includes state-of-the-art simulation techniques, both multi-scale and multi-physics, for use in the electronic industry.

Intelligent Autonomous Systems, IAS--3 F. C. A. Groen 1993 A collection of papers dealing with complete systems of intelligent robots, focusing on autonomy. The contributions cover intelligent perception, intelligent planning and control, and integrated systems.

Risk, Reliability and Safety: Innovating Theory and Practice Lesley Walls 2016-11-25 Risk, Reliability and Safety contains papers describing innovations in theory and practice contributed to the scientific programme of the European Safety and Reliability conference (ESREL 2016), held at the University of Strathclyde in Glasgow, Scotland (25—29 September 2016). Authors include scientists, academics, practitioners, regulators and other key individuals with expertise and experience relevant to specific areas. Papers include domain specific applications as well as general modelling methods. Papers cover evaluation of contemporary solutions, exploration of future challenges, and exposition of concepts, methods and processes. Topics include human factors, occupational health and safety, dynamic and systems reliability modelling, maintenance optimisation, uncertainty analysis, resilience assessment, risk and crisis management.

Vehicle and Automotive Engineering 2 Károly Jármai 2018-05-09 This book presents the proceedings of the second Vehicle Engineering and Vehicle Industry conference, reflecting the outcomes of theoretical and practical studies and outlining future development trends in a broad field of automotive research. The conference's main themes included design, manufacturing, economic and educational topics.

Advanced Motion Control and Sensing for Intelligent Vehicles Li Li 2007-11-24 This book provides the latest information in intelligent vehicle control and intelligent transportation. Detailed discussions of vehicle dynamics and ground-vehicle interactions are provided for the modeling, simulation and control of vehicles. It includes an extensive review of past and current research achievements in the intelligent vehicle motion control and sensory field, and the book provides a careful assessment of future developments.

Soft Computing in Smart Manufacturing Tatjana Sibalića 2021-12-06 This book aims at addressing the challenges of contemporary manufacturing in Industry 4.0 environment and future manufacturing (aka Industry 5.0), by implementing soft computing as one of the major sub-fields of artificial intelligence. It contributes to development and application of the soft computing systems, including links to hardware, software and enterprise systems, in resolving modern manufacturing issues in complex, highly dynamic and globalized industrial circumstances. It embraces heterogeneous complementary aspects, such as control, monitoring and modeling of different manufacturing tasks, including intelligent robotic systems and processes, addressed by various machine learning and fuzzy techniques; modeling and parametric optimization

of advanced conventional and non-conventional, eco-friendly manufacturing processes by using machine learning and evolutionary computing techniques; cybersecurity framework for Internet of Things-based systems addressing trustworthiness and resilience in machine-to-machine and human-machine collaboration; static and dynamic digital twins integration and synchronization in a smart factory environment; STEP-NC technology for a smart machine vision system, and integration of Open CNC with Service-Oriented Architecture for STEP-NC monitoring system in a smart manufacturing. Areas of interest include but are not limited to applications of soft computing to address the following: dynamic process/system modeling and simulation, dynamic process/system parametric optimization, dynamic planning and scheduling, smart, predictive maintenance, intelligent and autonomous systems, improved machine cognition, effective digital twins integration, human-machine collaboration, robots, and cobots.

Advanced Mobile Robotics DaeEun Kim 2020-03-06 Mobile robotics is a challenging field with great potential. It covers disciplines including electrical engineering, mechanical engineering, computer science, cognitive science, and social science. It is essential to the design of automated robots, in combination with artificial intelligence, vision, and sensor technologies. Mobile robots are widely used for surveillance, guidance, transportation and entertainment tasks, as well as medical applications. This Special Issue intends to concentrate on recent developments concerning mobile robots and the research surrounding them to enhance studies on the fundamental problems observed in the robots. Various multidisciplinary approaches and integrative contributions including navigation, learning and adaptation, networked system, biologically inspired robots and cognitive methods are welcome contributions to this Special Issue, both from a research and an application perspective.

Computational Intelligence: Theories, Applications and Future Directions - Volume II Nishchal K. Verma 2018-09-01 This book presents selected proceedings of ICCI-2017, discussing theories, applications and future directions in the field of computational intelligence (CI). ICCI-2017 brought together international researchers presenting innovative work on self-adaptive systems and methods. This volume covers the current state of the field and explores new, open research directions. The book serves as a guide for readers working to develop and validate real-time problems and related applications using computational intelligence. It focuses on systems that deal with raw data intelligently, generate qualitative information that improves decision-making, and behave as smart systems, making it a valuable resource for researchers and professionals alike.

Scientific and Technical Aerospace Reports 1994

Advances in Electromechanical Technologies V. C. Pandey 2020-09-24 This book comprises select peer-reviewed papers from the International Conference on Emerging Trends in Electromechanical Technologies & Management (TEMT) 2019. The focus is on current research in interdisciplinary areas of mechanical, electrical, electronics and information technologies, and their management from design to market. The book covers a wide range of topics such as computer integrated manufacturing, additive manufacturing, materials science and engineering, simulation and modelling, finite element analysis, operations and supply chain management, decision sciences, business analytics, project management, and sustainable freight transportation. The book will be of interest to researchers and practitioners of various disciplines, in particular mechanical and industrial engineering.

Vision Based Autonomous Robot Navigation Amitava Chatterjee 2012-10-13 This monograph is devoted to the theory and development of autonomous navigation of mobile robots using computer vision based sensing mechanism. The conventional robot navigation systems, utilizing traditional sensors like ultrasonic, IR, GPS, laser sensors etc., suffer several drawbacks related to either the physical limitations of the sensor or

incur high cost. Vision sensing has emerged as a popular alternative where cameras can be used to reduce the overall cost, maintaining high degree of intelligence, flexibility and robustness. This book includes a detailed description of several new approaches for real life vision based autonomous navigation algorithms and SLAM. It presents the concept of how subgoal based goal-driven navigation can be carried out using vision sensing. The development concept of vision based robots for path/line tracking using fuzzy logic is presented, as well as how a low-cost robot can be indigenously developed in the laboratory with microcontroller based sensor systems. The book describes successful implementation of integration of low-cost, external peripherals, with off-the-shelf procured robots. An important highlight of the book is that it presents a detailed, step-by-step sample demonstration of how vision-based navigation modules can be actually implemented in real life, under 32-bit Windows environment. The book also discusses the concept of implementing vision based SLAM employing a two camera based system.

a-vision-based-automated-guided-vehicle-system-with-marker

Downloaded from duurzaam.centrumnijmegen.nl on September 29, 2022 by guest